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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/826,776	04/16/2004	Laurene Janet Barsotti	BARSOTTI 1-1-1-2	1292

50525 7590 06/19/2008

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EXAMINER	
WAI, ERIC CHARLES	

ART UNIT	PAPER NUMBER
2195	

MAIL DATE	DELIVERY MODE
06/19/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/826,776	BARSOTTI ET AL.	
	Examiner	Art Unit	
	ERIC C. WAI	2195	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 February 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-18 are presented for examination.

Claim Objections

2. Claim 6 objected to because of the following informalities: line 7 should read "of the thread registration". Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 8, 11, 13, and 15 are rejected under 35 U.S.C. 102(e) as being anticipated by Carlson et al. (US Pat No. 6,842,898 hereinafter Carlson).

5. Regarding claim 1, Carlson teaches a computing system providing multi-threaded programming support, comprising:

a thread monitor class providing thread monitoring services to threads of a multi-threaded process (col 4 lines 46-49), the thread monitor class including:

a thread registration method to optionally register a thread for monitoring by the class (col 5 lines 18-22, wherein a set of threads are registered to be monitored based on criteria); and

a thread monitoring supervisor to monitor all threads registered for monitoring operation of threads (col 4 lines 46-49).

6. Regarding claim 8, Carlson teaches that the thread monitoring supervisor is optionally instantiated within a main thread of a multi-threaded program (col a 4 lines 46-59).

7. Regarding claims 11 and 15, they are the method claims of claims 1 and 8 above. Therefore, they are rejected for the same reasons as claims 1 and 8 above.

8. Regarding claim 13, Carlson teaches that the step of monitoring further comprises determining whether said additional thread is still alive to monitor operability of said additional thread (col 5 lines 25-32).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claims 2-3, 5, 9-10, and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carlson et al. (US Pat No. 6,842,898).

11. Regarding claim 2, Carlson does not explicitly teach that the thread monitor class further includes a thread un-registration method to remove a prior registration of a thread for monitoring by the class.

12. However it would have been obvious to one of ordinary skill in the art at the time of the invention to include a thread un-registration method. It is well known in the art that threads can complete their execution once their task is complete. One would be motivated by the desire to un-register a thread once that thread has completed its execution.

13. Regarding claim 3, Carlson does not teach that the thread monitor class further includes: a stop thread monitoring method to optionally terminate monitoring of all threads registered for monitoring by the class.

14. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to include a stop thread monitoring method. One would be motivated by the desire to stop monitoring threads that no longer needed to be monitored.

15. Regarding claim 5, Carlson teaches that the thread registration method wherein the monitoring comprises periodically verifying that the invoking thread is still alive (col 5 lines 25-32).

16. Carlson does not explicitly teach a thread alive check registration method optionally invoked by a thread to register for monitoring by the class. However, it would have been obvious to one of ordinary skill in the art, at the time of the invention to include a command or method to cause a thread to be registered for monitoring. Since, Carlson teaches optionally monitoring threads, one would be motivated by the desire to include some means to accomplish the registration.

17. Regarding claims 9-10, Carlson does not explicitly teach that the thread monitoring supervisor is further operable to restart an inoperable thread or restart the process that includes an inoperable thread.

18. Carlson does teach methods that allow a class to recover from an error state (col 6 line 1). It would have been obvious to one of ordinary skill in the art at the time of the invention, to have modified Carlson to include that the thread monitoring supervisor is further operable to restart an inoperable thread or restart the process that includes an

inoperable thread. One would be motivated by the desire to recover from the errors that resulted in the thread being inoperable an indicated by Carlson.

19. Regarding claims 16-17, they are the method claims of claims 9-10 above. Therefore, they are rejected for the same reasons as claims 9-10 above.

20. Regarding claim 18, Carlson does not explicitly teach that the thread monitor is a generic and reusable component.

21. Carlson teaches that "the present invention provides a method, apparatus, and instructions for handling call backs on system events for a collection of related threads" (col 4 lines 43-45) and "The present invention includes an independent monitor thread, which is employed to watch threads executing processes, such as those used to print a document" (col 4 lines 46-49). While Carlson applies his invention to monitoring printer threads, the ability to monitor other threads is not precluded. It would have been obvious to one of ordinary skill in the art to modify Carlson to explicitly teach that the thread monitor is a generic and reusable component. One would be motivated by the desire to extend the scope of Carlson to monitor other types of threads.

22. Claims 4, 6-7, 12, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carlson et al. (US Pat No. 6,842,898) in view of Bowers (US Pat No. 7,051,331).

23. Regarding claim 4, Carlson does not explicitly teach that the thread monitor class further includes: a thread HeartBeat method to signal a HeartBeat from a thread registered for monitoring by the class.

24. Bowers teaches a monitoring method, which uses a heartbeat interface to periodically indicate to whether or not a worker process is functioning improperly (col 2 lines 8-16).

25. It would have been obvious to one of ordinary skill in the art at the time of the invention to include a thread HeartBeat method to signal a HeartBeat from a thread registered for monitoring by the class. Bowers teaches that using a Heartbeat signal has multiple advantages over the prior art (col 1 lines 28-55).

26. Regarding claims 6-7, Carlson does not explicitly teach that the thread registration method comprises: a thread poll registration method invoked by a thread to register for monitoring by the class wherein the monitoring comprises periodically verifying that the invoking thread is properly operating by invoking a poll method derived from the thread poll registration invocation wherein the thread poll registration method comprises a thread Heartbeat registration method. .

27. Bowers teaches a monitoring method, which uses a heartbeat interface to periodically indicate to whether or not a worker process is functioning improperly (col 2 lines 8-16).

28. It would have been obvious to one of ordinary skill in the art at the time of the invention to include a thread HeartBeat method to signal a HeartBeat from a thread registered for monitoring by the class. Bowers teaches that using a Heartbeat signal has multiple advantages over the prior art (col 1 lines 28-55).

29. Regarding claims 12 and 14, they are the method claims of claims 6-7 above. Therefore, they are rejected for the same reasons as claims 6-7 above.

Response to Arguments

30. Applicant's arguments filed 02/04/2008 have been fully considered but they are not persuasive.

31. Regarding Applicant arguments to claim 1:

While Carlson does not explicitly disclose optional thread registration, Carlson's invention is meant to be generic. Carlson teaches that "the present invention provides a method, apparatus, and instructions for handling call backs on system events for a collection of related threads" (col 4 lines 43-45) and "The present invention includes an independent monitor thread, which is employed to watch threads executing processes, such as those used to print a document" (col 4 lines 46-49). This indicates that the decisions as to which threads are to be monitored is based on a user/programmer to optionally select which threads are to be monitored. While Carlson applies his invention

to monitoring printer threads, the ability to monitor other threads is not precluded. Therefore, contrary to Applicant's assertion, not all threads in Carlson are monitored.

32. Regarding Applicant arguments to claims 3 and 5: Rejection has been changed in light of claim amendments.

33. Regarding Applicant arguments to claim 8:

Carlson clearly teaches that the thread monitor is an independent thread operating in a multi-threaded environment (col 4 lines 46-59).

34. Regarding Applicant arguments to claims 2, 9-10:

Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

35. Regarding Applicant arguments to claim 4:

It is well known in the art that process and threads are used interchangeably in the art. In fact Carlson says that "threads operate in many respects in the same manner as processes (col 4 lines 59-60). Therefore, Applicant's assertion that process monitoring is different than thread monitoring is not persuasive.

36. Regarding Applicant arguments to claim 6:

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., providing complete freedom in a generic way for the thread designer to implement its "poll" method) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Conclusion

37. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

38. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric C. Wai whose telephone number is 571-270-1012. The examiner can normally be reached on Mon-Thurs, 9am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng - Ai An can be reached on 571-272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Supervisory Patent Examiner, Art Unit 2195

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